

REMARKS

Claims 5, 13, and 22-25 were rejected under 35 U.S.C. § 112, second paragraph. Claims 18-25 were rejected under 35 U.S.C. § 101 for claiming non-statutory subject matter. Claims 1-8, 10-12, and 16-25 were rejected under 35 U.S.C. 102(b) as being anticipated by Pekowski (U.S. patent No. 5,946,486, hereinafter “Pekowski”). Claims 9 and 13 were rejected under 35 U.S.C. 103(a) as being unpatentable over Pekowski in view of Crone (U.S. patent No. 6,880,149, hereinafter “Crone”), while claims 14 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Pekowski in view of Downs et al. (U.S. patent No. 6,226,618, hereinafter “Downs”). Claims 19, 20 and 25 have been cancelled, claims 1-18 and 21-24 remain in prosecution.

INTERVIEW SUMMARY

On November 19, 2007, Examiners Qamrun Nahar and Qing Chen and Applicants’ representatives, Kenneth Eiferman and Peter Hernandez, participated in a telephonic interview. During the interview, Applicants’ representatives proposed the claim amendments herein. Examiners Qamrun Nahar and Qing Chen agreed to reevaluate the pending rejections in light of the claim amendments and remarks herein.

OATH/DECLARATION

A new oath or declaration will be filed in compliance with 37 CFR 1.67(a).

DRAWINGS

No change will be made to FIG. 7 since the missing reference number “708” has been added to the specification via this amendment. The objection to the drawing(s) is believed to be overcome via the amendment to the specification that introduces the missing item number “708”.

SPECIFICATION

Correction to paragraphs [0037] and [0040] in view of the Examiner's constructive comments have been made. Paragraph [0058] has been amended to introduce a missing item number. As amended, it is believed the objection to the specification has been overcome.

CLAIM OBJECTIONS

The objection to claims 1, 2, 5, 8-17 and 24 are believed to be overcome in view of the amendment to the claims that have been made in this reply to the office action in view of the Examiner's comments. Note that the requested changes to claims 13-17 were not made since the operative terms used in independent claim 12 are "first program module" and "second program module" so there is proper antecedence.

REJECTIONS UNDER 35 U.S.C. § 112

Claims 5, 13, and 22-25 were rejected under 35 U.S.C. § 112, second paragraph. The claims have been amended in view of the Examiner's comments and are thus believed to be in condition to overcome the noted rejections.

REJECTIONS UNDER 35 U.S.C. § 101

Claims 18-25 were rejected under 35 U.S.C. § 101 for claiming non-statutory subject matter. Claims 18, 24 and 25 have been amended in view of the Examiner's comments and given their amendments, claims 18-25 are believed to claim statutory subject matter.

REJECTIONS UNDER 35 U.S.C. § 102(b)

Claims 1-8, 10-12, and 16-25 were rejected under 35 U.S.C. 102(b) as being anticipated by Pekowski. The cited Pekowski reference teaches a using a shadow dynamic link library (DLL) which intercepts calls from a calling application program executable. As shown and discussed in reference to FIG. 3, the shadow dynamic link library is named the same as the original target DLL and the target DLL is renamed to not conflict. The shadow DLL is used to trace events occurring upon entry and exit from a software module without having to modify the software module.

Independent claim 1 has been amended to clarify the claimed invention. Claim 1 has been amended to recite in part:

“using a third software module having one or more stubs for performing said first method that invokes said functionality performed by the second software module, the one or more stubs being used to enter the second software module and identify said functionality” and

“the one or more stubs comprising data required during said verification.”

Support for the above amendment can be found for example in FIG. 5 and the accompanying description found in paragraphs [0043] to [0054].

The cited Pekowski reference fails to teach or suggest the above recited method including a third software module (i.e., module 502 shown in FIG. 5) having one or more stubs for performing the first method that invokes the functionality performed by the second software module. The one or more stubs are used to enter the second software module and identify the functionality. The one or more stubs can, for example, be code segments which are callable by the first software module. The one or more stubs comprise data required during the verification by the second software module. Unlike that which is claimed in claim 1, the cited Pekowski reference teaches generating a shadow DLL which intercepts calls from a calling application in order to trace events occurring upon entries or exits from the DLL. This is accomplished by renaming the target DLL and naming the shadow DLL using the target's name. This is much different from what is claimed in claim 1 wherein one or more stubs in a third software module are used to invoke the functionality of the second software module. In the illustrative example shown in Fig. 5 the second software module would be the “Blackbox” and the third software module would be the DRM API having the blackbox stubs.

Given that the cited Pekowski reference fails to teach or suggest such a method it is believed that claim 1 and the accompanying dependent claims 2-11 are in condition for allowance. In particular dependent claim 3 now recites ***“wherein the data required during said verification is mixed into instruction streams provided by the one or more stubs.”*** Support for this amendment can be found in paragraph [0036]. The cited Pekowski reference fails to teach a method wherein data required for verification is mixed into instruction streams provided by one or more stubs as recited. With regard to dependent claim 4 it has been

amended to further recite in part, “***the second calling convention comprising a non-standard calling convention that preserves a return address across more than one call boundary.***”

Support for this amendment can be found in paragraph [0045]. The cited Pekowski reference fails to teach or suggest such a non-standard calling convention as now recited.

Independent claim 12 has been amended to recite in part that, “***said determining comprising checking a datum that represents a calling code used by the second program module, the datum being derived from a portion or the entirety of the second program module.***” Support for this amendment can be found in for example in paragraph [0040] of the specification. As discussed in the application, the datum can comprise a checksum, hash, etc. which represents that the calling code is safe and has not been tampered with, as for example by a hacker, etc. As recited the datum can be derived from the entire second program module or just a portion thereof. The cited Pekowski reference fails to teach or suggest such a verification of the integrity of the caller, and as such claim 12 as amended is believed to be in condition for allowance, as well as dependent claims 13-17 which add further nonobvious features to claim 12.

Independent claim 18 has been amended to recite the limitations of previous dependent claim 19 and 20 which have been cancelled and also include the further recitations that “***said logic checking a datum that represents a calling code used by the calling entity, the datum being derived from a portion or the entirety of the calling entity***” and “***the program module upon completing said function bypasses the intermediate entity and returns to the calling entity’s return address.***” As amended it is believed that claim 18 recites a program module which is neither taught nor suggested by the cited Pekowski reference, as shown in FIG. 6 and the accompanying text after call stack verification as now recited and completion of its function the program module bypasses the intermediate entity (in FIG. 6 that would be the blackbox stub 602) and returns control back to the calling entity’s (in this example client application 135). Pekowski fails to teach such logic checking or such return technique as now recited and thus claims 18 and 21-23 are believed to be in condition for allowance.

Independent claim 24 has been amended to include the limitation previously found in claim 25 which is now cancelled. With specific regard to amended claim 24 the cited Pekowski teaches away from what is claimed given that in FIG. 3 of Pekowski (used to reject

previous claim 25) it clearly shows that the second entity (this would be the target) returns to the intermediate entity (shadow DLL) before returning to the first entity (application executable). Comparing this to the illustrative example shown in FIG. 6 of the present application which shows that BBIJump bypasses the Blackbox stub when returning to the calling entity 135 which is what is claimed. As such, it is believed that claim 24 is in condition for allowance.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 9 and 13 were rejected under 35 U.S.C. 103(a) as being unpatentable over Pekowski in view of Cronic, while claims 14 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Pekowski in view of Downs et al. In view of the amendments made to dependent claim's 9, 13, 14 and 15 corresponding independent claims it is believed that claims 9 and 13 are in condition for allowance.

DOCKET NO.: 306162.01 / MSFT-3031
Application No.: 10/790,302
Office Action Dated: August 24, 2007

PATENT

CONCLUSION

In view of the above amendments and remarks, applicant respectfully submits that the present invention is in condition for allowance. Reconsideration of the application is respectfully requested.

Date: November 26, 2007

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